DEPARTMENT OF ENERGY
ATMOSPHERIC SCIENCE PROGRAM
FY 2008 SCIENCE TEAM MEETING
Annapolis, MD
February 25-27, 2008
PROGRAM

MONDAY - FEBRUARY 25

8:00 **CONTINENTAL BREAKFAST - SET UP POSTERS**

9:00 *Welcome* - **Schwartz**
9:05 *Arrangements and Logistics*

9:10 *State of ASP* - **Ashley Williamson,** DOE Program Manager for ASP

9:25 *ASP, Aerosol forcing, and Climate change* - **Stephen E. Schwartz**, ASP Chief Scientist

9:45 ***Keynote Presentation*** *: Development of emission inventories of aerosols and aerosol precursors for estimating aerosol radiative forcing* - **David Streets**, Argonne National Laboratory; **Tami Bond**, University of Illinois Urbana-Champaign

10:20 **BREAK - POSTERS**

BRIEF REPORTS FROM ASP INVESTIGATORS I. Chair, Leonard Newman

10:50 Alexander, M. Lizabeth: *Aerosol and Proton Transfer Mass Spectrometry in the ASP from Mexico City to Oklahoma City*

10:57 Atherton, C. S.; D.Bergmann, and P. Connell, *Global Modeling of Secondary Organic Aerosols*

11:04 ***Highlight*** : Barkey, Brian; Suzanne Paulson, and Albert Chung: *Insights into the Growth Process of Secondary Organic Aerosols via Genetic Algorithm Analysis of Polar Nephelometer Scattering Measurements*

11:16 Clegg, Simon L.: *Process Models of Organic/Inorganic Aerosols for the Development of Large Scale Atmospheric Models and the Analysis of Field Data*

11:23 Coulter, R. L.; and T. J. Martin: *Preliminary Results from the Pointing-Direction-Controlled MPL at CHAPS*

11:30 Doskey, Paul: *A Larger Pool of Secondary Organic Aerosol Precursors in Continental and Marine Air*

MONDAY - FEBRUARY 25 (continued)

11:37 Dubey, Manvendra: *Photoacoustic Measurements of Optical Properties for ASP-campaigns: Evidence for Particle Morphology Changes, Secondary Organic Aerosol Formation and Cloud Processing*

11:44 Ervens, Barbara: *A Study of Cloud Processing of Organic Aerosols Using Models and CHAPS Data*

11:51 ***Highlight*** : Ferrare, Richard; Chris Hostetler, John Hair, Anthony Cook, David Harper, Sharon Burton, Marian Clayton, Michael Obland, Ray Rogers, Jerome Fast, Youhua Tang, Greg Carmichael, Louisa Emmons, Chieko Kittaka, and Brad Pierce: *Airborne High Spectral Resolution Lidar (HSRL) Aerosol Measurements during Several Recent Field Experiments*

LUNCH On your own; Poster viewing

13:30 **BREAKOUT SESSIONS I**

Future Field Projects *- Intermediate range planning -* **Pete Daum**

Organic Aerosol Formation Mechanisms *- How can laboratory studies inform field studies and vice-versa?* - **Barbara Finlayson-Pitts**

Modeling *- What is the present status of representing aerosol processes in regional-to-global scale models and where should effort be focused?* - **Jerome Fast**

15:00 **BREAK - POSTERS**

FORTHCOMING FIELD PROJECTS

15:30 *ISDAC project (Indirect and Semi-Direct Aerosol Campaign)* **- Steve Ghan**

15:45 *Forthcoming SP2 Measurements in ISDAC -* **Gregory L. Kok**

15:50 *VOCALS project (VAMOS Ocean-Cloud-Atmospheric-Land Study)* **- Pete Daum**

BRIEF REPORTS FROM ASP INVESTIGATORS II. Chair, Douglas Worsnop

16:05 Meskhidze, N.; Y. Zhang, B. Gantt, J.J. Hemperly, X.-Y. Wen: *Effect of Terrestrial and Marine Organic Aerosol on Regional and Global Climate: Work Plan and Some Preliminary Results*

16:12 Zhang, Y.; X.-Y. Wen, X.-M. Hu, Y. Pan, J.J. Hemperly, and N. Meskhidze: *Current Status of the Development and Application of Mesoscale and Global WRF/Chem at NCSU*

16:19 Bond, Tami; and Mark Rood: *Optical Properties of Moderately-Absorbing Organic and Mixed Organic/Inorganic Particles at Very High Humidities*

16:23 ***Highlight*** : Finlayson-Pitts, Barbara J.: *Can Unique Photochemistry at Interfaces Play a Role in the Atmosphere?*

16:35 Fast, Jerome: *Synthesis of Field Observations and Multi-Scale Modeling of Aerosol Evolution*

16:42 Gaffney, Jeffrey: *Natural Radionuclides in Mexico City Aerosols*

16:49 Gilles, Mary: *Soots & Black Carbons: the Fresh, the Old, and the Oxygenated*

16:56 Guo, Huan: *Comparison of LES-Simulated MASE Clouds with Observations*

END OF SESSION

18:00 **RECEPTION (Governor Calvert House Atrium; *hosted by Brookhaven Science Associates*)**

TUESDAY - FEBRUARY 26

8:00 **CONTINENTAL BREAKFAST - POSTER VIEWING**

8:30 ***Keynote Presentation*** *: Constraining aerosol sources and processes using atmospheric observations and model* - **Daniel Jacob**, Harvard University

PLENARY TALK

9:05 *The Architecture of a Multiscale Aerosol Climate Mode* - **Steve Ghan**

REPORTS FROM BREAKOUT SESSIONS I

9:20 *Future field projects - Intermediate range planning* - **Pete Daum**

9:35 *Organic aerosol formation mechanisms* - **Barbara Finlayson-Pitts**

9:50 *Modeling* - **Jerome Fast**

10:05 **BREAK - POSTERS**

BRIEF REPORTS FROM ASP INVESTIGATORS III. Chair, Sasha Madronich

10:35 Herndon, S. C.: *Correlation of Secondary Organic Aerosol with Odd Oxygen in a Megacity Outflow*

10:42 Kotamarthi, Rao: Progress Towards Developing a Coupled Regional Scale Model for Evaluating Aerosol Process Uncertainty

10:49 Laskin, A.; J. Laskin, and S. A. Nizkorodov: *Application of Methods of High-Resolution Mass Spectrometry for Analysis of Organic Aerosols*

10:56 Sedlacek, A. J. III; and Jeonghoon Lee: *Photothermal Interferometric Absorption Spectrometry*

11:03 Lee, Yin-Nan: *CCN Properties during 05 MASE: Measurement Technique Intercomparison and Chemical Composition Effects*

11:10 Marley, Nancy: *Optical Properties of Mexico City Aerosols: Field and Laboratory Studies*

11:17 McMurry, Peter H. and James N. Smith *Growth Rates of Freshly Nucleated Particles*

11:24 ***Highlight*** : Moffet, Ryan; Rebecca J. Hopkins,Yury Desyaterik, Alexei V. Tivanski, J. D. Fast, J. C. Barnard, Alexander Laskin, and Mary K. Gilles: *The Aging of an Urban Aerosol Plume*

11:36 Ogren, John A.: *Cloud-Processing and Aerosol Optical Properties at a Polluted Continental Site*

11:43 Olfert, Jason and Jian Wang: *Fast Aerosol Size Distribution Measurements with the Fast Integrated Mobility Spectrometer*

11:50 ***Highlight*** : Onasch, Timothy B.; and Paul Davidovits: *Single particle characterization in MILAGRO; CCN Activation Experiments with Adipic Acid*

LUNCH On your own; Poster viewing

TUESDAY - FEBRUARY 26 (continued)

13:30 **BREAKOUT SESSIONS II (90 min)**

New Particle Formation *- What is the present status of calculating new particle formation from gas phase precursors and where should effort be focused?* - **Peter McMurry**

Gas-particle Interactions *- What is the present status of calculating evolution of particle size and composition and where should effort be focused?* - **Rahul Zaveri**

Optical Properties *- What is the present status of calculating aerosol optical properties including f(RH) from size distributed composition? Where should effort be focused?* - **Paul Davidovits**

Cloud-aerosol Interactions *- What is the present status of calculating CCN and IN concentration as f(supersaturation) from size-resolved aerosol number and composition, and of representing activation, vertical transport, aqueous-phase chemistry, resuspension, and particle scavenging in aerosol models?* - **Jian Wang**

Measurement and Instrumentation *- Issues and needs for field projects* - **Stephen Springston**

15:00 **BREAK - POSTERS**

PLENARY TALKS

15:30 *Some outstanding disconnects* - **Larry Kleinman**

15:45 *Spectrometers for Sky-Scanning, Sun-Tracking Atmospheric Research (4STAR): Airborne Concepts and Ground Prototype Measurements* - **Beat Schmid**, PNNL

BRIEF REPORTS FROM ASP INVESTIGATORS IV. Chair, Rickey Petty

15:55 Ovtchinnikov, Mikhail; Richard Easter, Larry Berg, and Carl Berkowitz: *A Cloud Modeler's First Look at Observations from CHAPS*

16:02 Seinfeld, John: *Laboratory Studies of Secondary Organic Aerosol Formation*

16:09 ***Highlight*** : Senum, Gunnar and Peter Daum *Interaction of Turbulence, Clouds, and Aerosol Particles*

16:21 Yu, Xiao-Ying; and James P. Cowin: *Fast Time-Resolved Aerosol Collector - Fast TRAC*

16:28 Zaveri, Rahul; M. Lizabeth Alexander, John Ortega, John Hubbe, Paul B. Voss, Tom Hartley, Teresa Campos, David Knapp, Deedee Montzka, Andrew Weinheimer, Wengang Zheng, Frank Flocke, Sasha Madronich, Peter DeCarlo, Jose Jimenez, Lawrence I. Kleinman, Stephen R. Springston, Yin-Nan Lee, Linda J. Nunnermacker, Gunnar I. Senum, Jian Wang, Peter H. Daum, Judy Weinstein-Lloyd, Manjula Canagaratna, and John T. Jayne: *Modeling Gas-Aerosol Processes in the Mexico City Outflow during the 18-19 March 2006 Long Range Transport Episode*

16:35 ***Highlight*** : Wang, Jian; Yin-Nan Lee, Peter Daum, John Jayne, and Liz Alexander: *Effects of Organics on Aerosol Cloud Condensation Nucleus Concentration Observed During the Marine Stratus/Stratocumulus Experiment (MASE)*

16:47 Zhang, Qi; Jose-Luis Jimenez, Dominick Spracklen, Ken Carslaw, Jian Tian, Manjula Canagaratna, Douglas Worsnop, James Allan, Hugh Coe, and the AMS Measurements Team *Submicron Aerosols from Multiple Worldwide AMS Campaigns and Comparison with Global Models* (MONDAY PM OR TUES)

16:54 Ziemann, Paul J.; Janet Arey, Roger Atkinson, Sonia M. Kreidenweis, and Markus D. Petters: *Hygroscopicity and CCN Activity of Secondary & Processed Primary Organic Aerosols*

END OF SESSION

WEDNESDAY - FEBRUARY 27

8:00 **CONTINENTAL BREAKFAST - POSTER VIEWING**

8:30 ***Keynote Presentation*** *: Narrowing the uncertainty in aerosol radiative forcing by combining suborbital and satellite measurements in interagency/international field programs,* **Philip Russell**, NASA Ames

REPORTS FROM BREAKOUT SESSIONS II

9:05 *New Particle Formation* - **Peter McMurry**

9:20 *Gas-particle Interactions* - **Rahul Zaveri**

9:35 *Optical Properties* - **Paul Davidovits**

9:50 *Cloud-aerosol interactions* - **Jian Wang**

10:05 **BREAK - REMOVE POSTERS**

REPORTS FROM BREAKOUT SESSIONS II (cont'd)

10:30 *Measurement and Instrumentation* - **Stephen Springston**

10:45 **GENERAL DISCUSSION: Future ASP Field Studies - Pete Daum, Discussion leader**

FINDINGS FROM CHAPS

11:15 **Larry Berg**

11:30 **Chris Hostetler**

11:45 *Future Directions for ASP* - **Ashley Williamson**

12:00 **END OF ASP SCIENCE TEAM MEETING**

12:00 **CHAPS PROJECT WORKING GROUP MEETING**

14:30 **END OF CHAPS WORKING GROUP MEETING**